

Page 1

A. GENERAL INFORMATION

Exam Date: 8/1/2013

- ## TRIBUTARY

B. OVERLAP REVIEW

- ### C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

Method of Determination: aerial photographs

2.

PLACE OF USE: WILDLIFE STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
06N	02W	10		X	X		X	X		X									
					L 2			L 4		L 3									

Method of Determination:

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached

4.

Well or Diversion**ID No.*****Motor Make****Hp****Motor Serial No.****Pump Make****Pump Serial No. or Discharge Size**

POD

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment**Type****Make****Model No.****Serial No.****Size****Calib. Date**

2. Measurements: none taken

E. FLOW CALCULATIONS Additional Computation Sheets Attached

Measured Method: not applicable – no flow component

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: not applicable

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$$

2. Volume Calculations for Other Uses: wildlife storage

Area of wildlife cells = approximately 28.5 af. Average depth of wildlife areas = 3 feet

$$Q = \text{area} \times \text{average depth} \times 0.4 = 28.5 \times 3 \times 0.4 = 34.2 \text{ af}$$

G. NARRATIVE/REMARKS/COMMENTS

The permit was issued for 35 af for wildlife storage in a system of three wildlife "cells". The wetlands were excavated and shallow ground is the source. Surface water, through the ditch system the landowner has historically used for irrigation, is used to refresh the wetland cells during the irrigation season.

The permittee is the landowner, however, the USDA National Resource Conservation Service [NRCS] provides financing and is responsible for operations and maintenance of wetlands restored or enhanced through its Wetland Reserve Program [WRP]. The place of use was a natural wetland area prior to being converted to an agricultural use many years ago. Because of this role, the NRCS is listed as a representative on the permit. Cory Greer, Civil Engineer with the NRCS provided the NRCS files for my review, and accompanied me on the field exam.

Mr. Greer stated that the wetland development was a co-operative project with Ducks Unlimited, a non profit that provided the design plan and engineering for the project, and that this is a common arrangement. He provided as-built drawing of the wetlands project, obtained from Ducks Unlimited, for my review.

There are 6 water control structures, with gates or valves that control the flow of water from the irrigation ditch, from cell to cell, and the outflow. The structures are labeled on the field exam map. Structure # 1 is the historical POD for local irrigation. It allows water to flow through the structure to the old dirt ditch west of the structure, and controls the flow north through a dirt ditch to the main inlet [structure # 2], a 30" diameter pipe that directs water into cell # 1.

Structure # 3 allows water to flow from cell # 1 to cell # 2. Structure # 4 is an overflow device that directs excess water to the dirt ditch to the south. Structure # 5 conveys water from cell # 2 through an old dirt irrigation ditch to cell # 3. Structure # 6 is the outflow from cell # 3 to a pond and slough that flows into the Payette River, approximately 0.5 miles to the west.

The cells cover about 28.5 acres according to a review of aerials from 2004 to the present. The cell boundaries are somewhat ephemeral, and hard to identify, due to the changing water levels and the heavy planting of water plants such as reeds and cattails. The as-built drawings included a site plan with the wildlife cell shapes, areas, and volumes, but did not include depth information with which to calculate the storage volume. The as-built drawings included the following information:

Cell #	cell area	cell volume
Cell # 1	12.5 ± acres	10.7 ± af
Cell # 2	4.79 ± acres	13.5 ± af
Cell # 3	12.8 ± acres	11 ± af

The as-built information indicates the cells cover an area of 30.09 and hold a volume of 35.2 af. Based on my past field experience examining wildlife ponds, the average depth is 3 feet. Using my estimate of the area obtained from aerial photographs as 28.5 acres and the average depth of 3 feet, the volume calculates to 34.2 af. This is close to the permitted 35 af, and the 35.2 provided in the as-built drawings. I recommend for licensing the permitted 35 af.

The permitted PODs are listed in every quarter-quarter where the ponds are, which is one of the IDWR methods of identifying PODs in ponds that have been excavated and have shallow ground water as the source. In this case, there are 5 PODs permitted. I deleted 2 of the PODs so that there is 1 in each pond. This method is also acceptable.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

- 1) Permit amount 35 af storage
- 2) Beneficial use limit n/a af storage
- 3) System measurement 34.2 af storage
- 4) Proof fee amount 100 af storage

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
WILDLIFE STORAGE	01/01 to 12/31		35.00 AF
<u>Totals:</u>			35.00 AF

2. Recommended Amendments

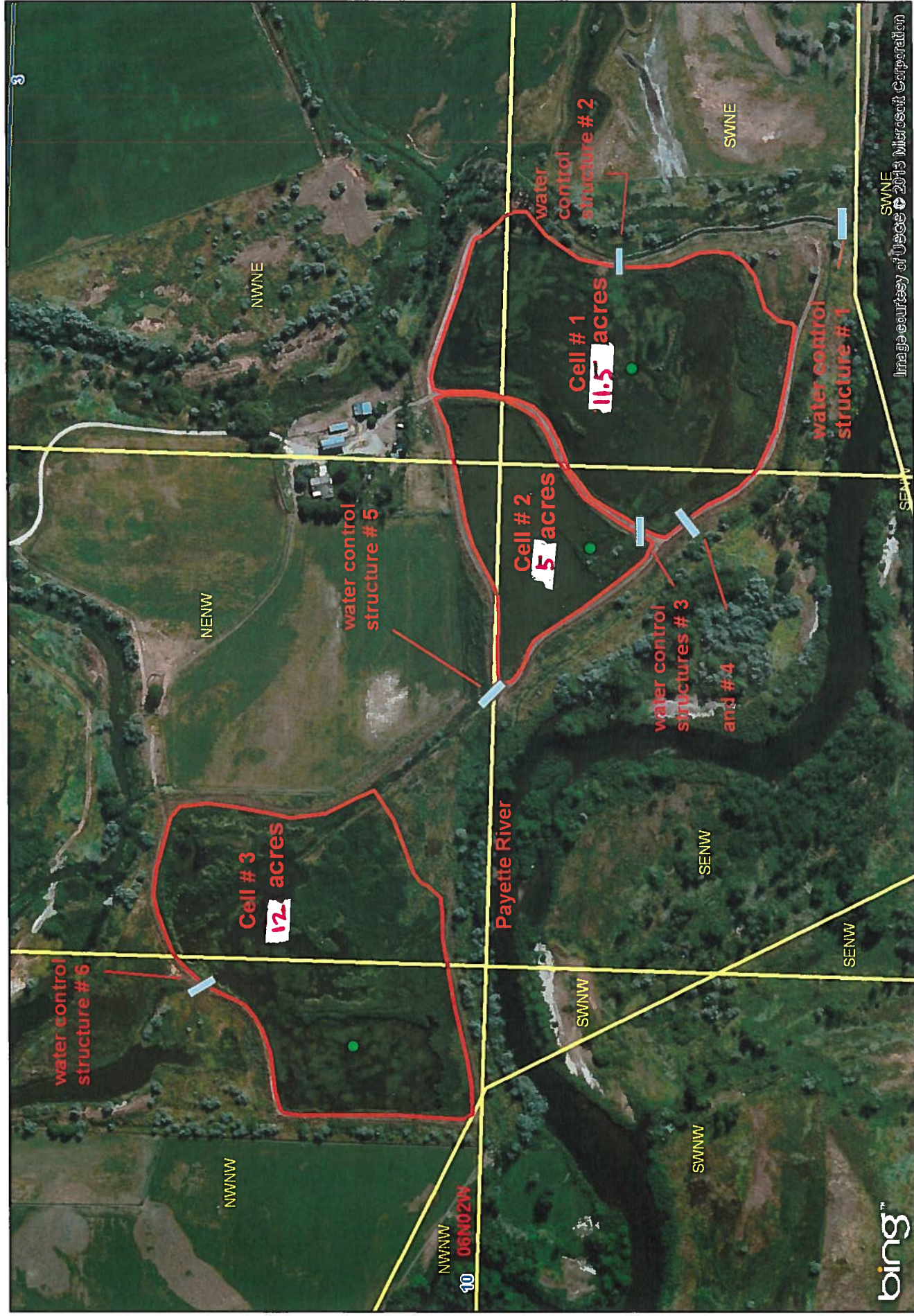
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

Field Examiner's Name Cheryl Unis Date 8-2-13

Reviewer _____ Date _____



65-22774 - 2011 Bing photography. Wetland cells # 1 - # 3. Six water control devices control the flow of water from cell to cell and the outflow from the cells to a slough north of cell # 3, where it returns to the Payette R about 0.5 miles to the west. The structures also control the flow of surface water that is used to refresh the cells during the irrigation season. Points of



Main inlet on irrigation ditch. Looking southeast. Grate seen left is over the ditch that carries water north to structure # 2, then into cell # 1.



Looking north at structure # 2 that carries water under the dirt road to cell # 1 – west.



Looking southwest at cell # 1.



Looking west at cell # 2 from the dike that separates cells 1 and 2.



Structure 6, outlet to the slough north of cell # 3.



Cell # 3.